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DEFINING ELECTRIC CHARGE CURRENT RESISTANCE VOLTAGE TEMPERATURE MAGNETIC PRESSURE

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Abstract

Here is a deconstruction of the ideal gas equation. This has implications in our understanding of the terms which describe temperature, pressure, electromagnetism and mass. Understanding of these terms, are arrived at from experiment. Electric charge squared is a constant which equals a particle mass times distance travelled. Electric current is now defined as the momentum of one coulomb of particles such as photons, electrons, protons, ions, atoms. Electric resistance is defined as velocity per elementary charge or electric current per mass of one particle as described in the electric current definition. The symbol V in electron volts eV stands for acceleration a. Temperature is redefined as electric acceleration ea. Magnetic pressure is defined as the square of a magnetic field B.

Keywords: 186-ether, Graviton, Aitheron, Quantum, Hall, Boltzmann constant, Proton, Electron, Electron Volt, Current, Wavelength, Frequency, Charge, Mass, Molar Volume, Magnetic Pressure, Temperature, Ideal Gas Equation, Avogadro, Klaus Von Klitzing, Josephson, Charles, Kelvin, Boyle, Pascal, Gay-Lussac, Feynman, Pendulum, Wien, Planck

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1 Introduction

Blaise Pascal is known for his work on pressure. Lord Kelvin devised the absolute temperature scale. Avogadro, Boyle, Kelvin, Charles, Gay-Lussac have contributed to the Ideal Gas Equation laws. Feynman raised an important problem in Physics in the hazy understanding of units of energy especially the unit of electron volts. He apologizes for the units of energy with respect to eV. Another difficulty brushed aside is in the physical meaning of the terms electric current, voltage, resistance and charge. The world carries on as if this is elementary stuff the level of high school students and worked out in the context of far bigger advances in Physics. This is far from the truth as the reader will soon find out.

2. Literature review

In the table below I have deconstructed everyday terms by electricians, chemists, biologists, engineers and doctors. Through an example of a cardiac heart jumpstart device, I place my arguments with empirical data. You will notice that there is no evidence of electron action in this cardiac revival device and that PHOTONS are involved in CAPACITANCE. https://www.naturalphilosophy.org/pdf/abstracts/abstracts_7287.pdf

On June 20th 2024 Ethan Sagel said – Ohm's Law V = IR cannot be derived.

My response – Without a doubt Newton's F = ma is the same equation as Ohm's Law V = IR.

Acceleration, $a = \frac{eV}{e} = I \times R$

Resistance, $R = \frac{c}{e} = \frac{I}{m}$

Acceleration, $a = I \times R = I \times \frac{I}{m}$

Force, $F = ma = I \times I$

This is a unifying theory of different symbols for force phenomena.

Consider a cardiac defibrillator device that discharges 0.17C, 15.0 amps, 2.5×10^3 volts to the heart in 11.333 milliseconds from a capacitor at 68×10^{-6} Farads

Coulombs	0.17 C		1
Amperes	15.0 A		2
Volts	2.5×10^3 V		3
Time period	0.0113333 s		4
Capacitance	68×10^{-6} F		5
Resistance	Ohms=V/I=166.666 Ω		6
Inductance	$L = \Omega$ × s $L = 1.888883333H$	$L = \Omega \times t$ $L = 166.666 \times 0.0113333$ $L = 1.888883333H$ L is the string length of 6.24×10^{18} photons	7
String length D of one photon	$D = L \times eD$ $= 3.026333446 \times 10^{-19} m$	$m^{\bullet} = \frac{(1.602176634 \times 10^{-19})^2}{3.026333446 \times 10^{-19}}$ $m^{\bullet} = 8.48211041 \times 10^{-20} kg$	8
String length R of # photons	# = Q/e = 0.17 /e # = $1.06105661 \times 10^{18}$	$R = D \times \# = 0.321111$m	9
Acceleration is Voltage	$a = R/t^2$	a = 0.321111 / $(0.0113333)^2$ a = 2.5×10^3 m/s² = Volt	10
$Q^2 = m \times r$	$0.17^2 = m \times 0.32111$	$m = 0.09kg$	11
$e^2 = m^{\cdot} \times r^{\cdot}$	$m^{\cdot}$ $= 8.016428171 \times 10^{-27} kg$	$\Phi = \frac{h}{2e}$ $\Phi = 2.0678337171e - 15Wb$ $\Phi = 15.0 \times \pi r^{\cdot} \times 10^{-7} \times 137.036Wb$ r* =3.202136386488 5e-12m	12
$E = m^{\bullet\bullet} \times c^2$	$m^{\bullet\bullet} = 7.5763127 \times 10^{-34} kg$	$E = Q \times V \times e$ $E = 0.17 \times 2.5 \times 10^3 \times e\,J$	13
$q^2 = m^{\bullet} \times D$	$m^{\bullet}{}_{kg}$ $= 8.48211041 \times 10^{-20} kg$	$m^{\bullet\bullet}{}_{kg} = \frac{E}{c^2} = \frac{6.809250253 \times 10^{-17}}{(2.99792458 \times 10^8)^2}$ $= 7.576312676 \times 10^{-34} kg$	14
Resistance $\Omega = \frac{l}{m^{\cdot}} = \frac{c}{e}$	$m^{\cdot}$ = 8.016428989e-27Kg $\Omega = \frac{15.0}{m^{\cdot}} = \frac{c}{e}$		15
Resistance $\Omega = \frac{vel}{Q}$	$\Omega = 166.666 = \frac{\lambda}{t_1 \times t_2} \times \frac{1}{l}$ $= \frac{Volt}{I}$ $h = m^{\bullet\bullet} \times c \times \lambda$ $= m^{\cdot} \times v \times r^{\bullet\bullet}$	$v = \frac{0.321109222}{0.0113333} = 28.3333m/s$	16
Pendulum	$f = \frac{1}{2\pi}\sqrt{\frac{g}{l}}$	$\frac{g}{l} = \frac{Volt}{R} = \frac{1}{LC} = 7{,}785.49406745352Hz^2$ g is acceleration, a of an ether toroid Ex in (10)(12)	17
Induction	$f = \frac{1}{2\pi}\sqrt{\frac{1}{LC}}$	$\frac{2.5 \times 10^3}{0.32111} = \frac{1}{1.888883333 \times 68 \times 10^{-6}}$	18

3. Method

Employing ratio and proportion where dimensional homogeneity is maintained on both sides of an empirical equation, I present these empirical equations utilizing algebraic computation.

4. Data Processing and Analysis

Angular Momentum of Ether the cloak of Boltzmann constant

$Q^2 = e^2$ squared $\times [8.610225 \times 10^{-5}]^2$ {Q=Boltzmann constant} (1)

$PV = \text{Energy}, E = kT$ (2)

$E = (2\pi \times 10^{-7} \times 137.036 \times e) \times (e \times a) = k \times T$ (3)

$\left(\frac{I^2}{R_1 \times R_2}\right) \times (R_1 \times R_2 \times R_3) = (2\pi \times 10^{-7} \times 137.036 \times e) \times (e \times a)$ (4)

$\frac{F}{A} \times V = 2\pi \times 10^{-7} \times 137.036 \times E$ (5)

Atmospheric pressure is $\frac{F}{A}$ or $\frac{I^2}{R_1 \times R_2}$ (6)

Magnetic Pressure P = Square of magnetic field B = Gas pressure = Current squared / Area

Boltzmann $k \equiv Q = 2\pi \times 10^{-7} \times 137.036 \times e$

$PV = Q \times T$ where $T = eV = ea$ (7)

Repurposing the Ideal Gas Equation: $mc^2 = Q \times T$ (8)

The role of temperature has been underestimated by concluding that average kinetic energy is a final definition for temperature. In-fact over several decades various temperature scales were invented based on arbitrary units of measurements leading to conversion tables.

Temperature is defined as being proportional to the *average* kinetic energy of a body; "average" expresses the reality that it is unfeasible to measure different areas of a body possessing different energies.

The next experiment will lead to a new paradigm in defining Kelvin T as electron volts or more accurately elementary charge e times acceleration of a photon.

Temperature T = eV = ea

Temperature is in absolute fact electron volts, where electron volts is a misnomer. Electric acceleration is a suggested right descriptor.

In the experiment that follows I have added one step to Wien's Law: Empirical evidence as to why two different frequencies (wavelength) represent the same associated temperature.

It is a simple proof that demonstrates empirically the relationship between two black body radiations laws namely, Wien's law and Planck's derivation law.

Electron volt eV = Temperature, T	Kelvin, K = Temperature, T_2
• Apply Wien's law, $2.9 \times 10^{-3} = \lambda_1 \times T$ $2.9 \times 10^{-3} = \lambda_1 \times eV$ $\lambda_1 \times (2\pi \times 10^{-7} \times 137.036) = \lambda_2$ Example: eV = 511000 and the Compton wavelength for an electron of mass m	$2.9 \times 10^{-3} = \lambda_2 \times T_2$ • Apply Planck's Law, $0.0144 = \lambda_3 \times T_2$ • The photon mass m at wavelength obeys de Broglie's equation $m \times c \times \lambda_3 = h$

A rotational factor of $2\pi \times 10^{-7} \times 137.036$ radians explain why the same Kelvin temperature of a body radiates two differently measured frequencies.

Electric Acceleration: $V = \frac{eV}{e} = acceleration\ a$ A paradigm shift.

The V symbol in eV is acceleration – accelerating voltage.
It is not EMF
It is not PD

It is not Energy

Idiocy of energy units – It's too bad, but I have already apologized, and there is nothing else I can do... - Richard P. Feynman (1961)

Consider 511 keV for an electron, (10) and (12) have the same magnitude by 24 decimal places.

$$\frac{eV}{e} = V \tag{9}$$

$$\frac{511000}{1.60217653\times10^{-19}} = 3.1894 \times 10^{24} \text{ Volts} \tag{10}$$

$$\text{Acceleration} = \frac{c^2}{r} \tag{11}$$

$$\frac{(2.998\times10^{8})^2}{2.817940325\times10^{-8}} = 3.1894\times10^{24}\ m/s^2 \tag{12}$$

$$\text{Voltage, } V = \frac{c^2}{r} \tag{13}$$

The term eV is called electron volt by convention. This is a misnomer. The e stands for elementary charge and not only that of an electron. The symbol V is acceleration. The term eV = Joules per coulomb. eVe is energy in joules.

eV is not energy as is loosely stated in text. Rather eV is the energy of 6.24e18 particles. And eVe the energy of one particle. *It is imperative to call the V in eV accelerating voltage.*

a = **f** × VRK $m \times VRK$ VRK = 25812.807 m/s This acceleration a is that of the *Ether toroid* producing a force on 186 Ether of 1.2102737×10e44N which is at speed of light squared. This is the solution for superconductivity at Tc. REF [4] SIPS CRETE 2024

The thought process continues in seemingly unrelated experiments like the pendulum.

Unification of Gravity with Electromagnetism (GEM)

$$T = 2\pi\sqrt{\frac{ml}{mg}} \tag{14}$$

$$T = 2\pi\sqrt{\frac{q^2}{I^2}} \quad (15)$$

$$T = 2\pi\frac{q}{I} \quad (16)$$

$$q = I \times T/2\pi \quad (17)$$

In 1961 Feynman uttered the apologies for the units of energy. Now, I have solved the problem at the swing of a pendulum. Prof. Calculus in Tintin comics has created the wonders associated with the simple pendulum deep in my mind.

Defining mass m: 737 Aitheron × f = m (18)

Defining velocity VRK: $h = m \times VRK \times r = e^2 \times VRK$ $\quad VRK = \frac{h}{e^2}$ (19)

$I = \frac{mc}{e} = \frac{Mv}{e}$ Motion of electrons limits our understanding of electric current (20)

Mass m or mass M can represent a photon, an atom, an ion, ether mass

$$R \text{ ohms} = \frac{I}{m} = \frac{c}{e} = 1.871157347061897046739729197673 5 \times 10^{27} \text{ohms} \quad (21)$$

Variable resistance R ohms = $\frac{v}{e}$

$\frac{eV}{e} = a$ $\quad \frac{mc}{e} \times \frac{v}{e} = IR$ For one particle [Ref. 3] (22)

5. Results and Discussions

Fernandes Research Outcomes and Equations:

737 Aitheron: $7.372497321 \times 10^{-51}$ Kg

Graviton: $7.372497321 \times 10^{-58}$ Kg

Ether-Graviton

$$1.859222909 \times 10^{-9} \times V_{Rk} = 7.372497321 \times 10^{-58} \times \frac{c^2}{1.380668031 \times 10^{-36}} \times 1.0 \quad (23)$$

The energy of 737 Aitheron equals Planck's constant times one second.

$$7.372497321 \times 10^{-51}\ \text{Kg} \times c^2 = h \times 1.0\ \text{s} \tag{24}$$

$$1.859222909 \times 10^{-9} \times V_{VRK} = 7.372497321 \times 10^{-51} \times \frac{c^2}{1.380668031 \times 10^{-29}} \times 1.0 \tag{25}$$

So, the imposed condition is 1 second for the wave-maker measurement.

737 Aitheron Frequency: A defining moment for understanding the meaning of mass

Superconducting Velocity VRK = 25812.807 m/s

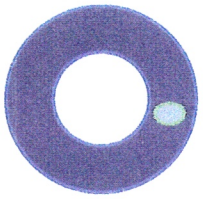
The Quantum Hall Resistance, RK = 25,812.807 Ω/C units of Ohms / 1Coulomb

Faster Than Light FTL = $3.481818846 \times 10^{12}$ m/s This is the temperature photon velocity

Speed of Light,
c = Aitheron frequency × 2π × Radius of an Ether Toroid × 137.036

Speed of Light Squared, c^2 = VRK × FTL = $25812.807 \times 3.481818846 \times 10^{12}$

186 Ether mass [grey] × acceleration c^2/r = Ether toroid mass[blue-black] × a= 1.21e44 N



Wavelength Lambda = 2Pi × R × 137.036

Magnetic Flux Quantum Phi = BA $A = Pi \times R \times r \times 137.036$

Mass is a measure of the frequency of a 737 Aitheron:

7.372497321e-51 Kg.s × f = Mass

6. Conclusion

A deeper understanding of primary and secondary units in Physics sets the scientific world on a new course of discovery. Ad hoc trial and error experimental design repeats stem from physical constants such as the Boltzmann constant being wrongly thought of. Here I am hitting at statistical outcomes versus algebraic computation of empirical data. Statistical outcomes are approximations and missed assumptions and variables.

Terms used in Physics have now been rewritten based on experiments. A paradigm shift in several terms is presented in the table below. The cardiac defibrillator, simple pendulum and BB radiation equations all point to some phenomenon being measured differently.

Paradigm shifts always lead to technological skips. The table below depicts paradigm shifts based on empirical evidence.

Term	**Standard Physics Definitions**	**Fernandes Definitions**
Voltage	EMF PD eV V	Acceleration
Current	Motion of Electrons	Momentum of 1 Coulomb Photons, Ions, Atoms, Electrons, 186-Ether
Resistance	Resists the flow of electrons	Velocity of 1 Coulomb Photons, Ions, Atoms, Electrons, 186-Ether
Wavelength	Distance crest to crest	Circumference of a circle × 137.036

Frequency of a wave	Cycles per second – Unit of Hz	Cycles per second – unit of Hz that of an Aitheron
Charge	Gives direction + or -	Mass/C × Wavelength
Charge squared	-	Mass × Radius of a Torus
Acceleration	Rate of change of speed	Depends on temperature photon T = eV = ea
Newton's Law	F = ma	Ohm's Law V = IR
Gravity, g	Acceleration due to gravity	Acceleration of Ether
Temperature	Average KE	Electron volt or ea
Energy	Mass converts to energy at lightspeed	Energy is a measurement with no conversion at lightspeed
Fringe	Dispersion of light on a screen	Ether fringe
Hand of God Alpha	A dimensionless constant	A toroidal pulsation factor
Ideal Gas Equation	PV = nKT	$B^2 \times R1 \times R2 \times R3 = n$ Q × ea
Volume of one mole gas	Avogadro's number at fixed T and P	Three lengths R1×R2×R3 of photons at fixed T and P

TECHNOLOGICAL SIGNIFICANCE – In Medicine

Bioengineering – Catalysis is about lowering the activation energy which is now understood as eV of a temperature photon. Enzymes cut and paste biomolecules in drug making strategies. Photonics can fine tune this process.

PCR – This process of gene amplification is temperature dependent. A further understanding of gene amplification via temperature photonics needs to be explored.

Inflammation – Temperature and inflammation are related phenomena. Thermometers for fever measurement are in use in monitoring patients in hospitals with infections.

Biomedical Imaging – Superconductors in imaging equipment and logic circuits in chips in electronic devices, wearables can be efficiently designed with right equations of electrical terms.

NIST – CODATA

Quantized Hall Resistance, RK = 25,812.807 Ω

Fine Structure Constant alpha = 0.00729735257 $\frac{1}{\alpha}$ = 137.0359991 rounded off to 137.036

Speed of Light, c = 2.99792458×10^{8} m/s

Planck constant, h = $6.62607015 \times 10^{-34}$ J.s

Elementary charge, e = $1.602176634 \times 10^{-19}$ C

Josephson constant, Kj = $4.8359784841698 \times 10^{14}$ Hz/V

Magnetic Flux Quantum – Phi,Ø = $\frac{h}{2e}$ = $2.067833848 \times 10^{-15}$Wb

Gravitational Constant G = $6.6742 \times 10^{-11} \frac{m}{Kg} \times \frac{m^2}{s^2}$

Standard Physics Equations

Electric Field: $E = \frac{F}{e}$

Magnetic Field: $B = \frac{F}{ev}$

$$\text{Force} = eE = \frac{eV}{d} = Bev$$

$$\text{Wavelength: } \lambda = \frac{h}{mc}$$

$$\text{Hall Voltage: } V = I \times 25812.807$$

$$\text{Josephson Equation: } f_I = \left(\frac{2e}{h}\right) V \qquad \frac{2e}{h} = 4.836 \times 10^{14}$$

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